

What is claimed is:

1. A rotor for use in turbine applications comprising:  
a radial compressor/pump having radially disposed spaced apart fins  
5 forming passages; and  
a radial turbine having hollow turbine blades interleaved with said fins and through which fluid from said radial compressor/pump flows.
2. The rotor as described in Claim 1 further comprising spaced apart turbine fins for receiving said fluid.
3. The rotor as described in Claim 1 wherein said rotor is located by a shaft inside a turbine engine housing defining a compressor outlet volute and a turbine inlet scroll, wherein said radial compressor/pump compresses air into said compressor outlet volute and heated exhaust air is directed through said hollow  
5 radial turbine blades from said turbine inlet scroll, causing said rotor to rotate.
4. A turbine engine comprising:  
a turbine engine housing, said turbine engine housing having a compressor outlet volute and a turbine inlet scroll;  
a single rotor mounted to a shaft inside said turbine engine housing, said  
5 rotor having a radial compressor/pump with axially disposed spaced apart fins forming passages, and an radial turbine having hollow radial turbine blades interleaved with said fins and through which air from said radial compressor/pump flows;  
wherein said radial compressor compresses fluid into said compressor  
10 outlet volute and heated exhaust fluid is directed through said hollow radial turbine blades from said turbine inlet scroll, causing said rotor to rotate.
5. A turbine engine comprising:  
a turbine engine housing, said turbine engine housing having a compressor outlet volute and a turbine inlet scroll;  
a single rotor mounted to a shaft inside said turbine engine housing, said  
5 rotor having a radial compressor/pump with axially disposed spaced apart fins forming passages, and a radial turbine having hollow radial turbine blades interleaved with said fins and through which air from said radial

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compressor/pump flows;

magnets and windings positioned on said turbine engine between said turbine engine housing and said single rotor for the production of electrical power;

wherein said radial compressor/pump compresses fluid into said compressor outlet volute and heated exhaust air is directed through said hollow radial turbine blades from said turbine inlet scroll, causing said rotor to rotate and produce electricity.